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## Technical Data Sheet PERMA-DECK® AVANTAGE+ Decking Boards

### Description

PERMA-DECK® Decking Boards are made of thermoplastic polymers, foaming agents, UV-stabilized pigments and chosen process additives.

The thermoplastics polymers, that are included in PERMA-DECK® Decking Boards, come from Post-Consumers and Post-Industrial sources. Post-Consumers material includes rigid plastic, such as detergent and water bottles. The Post-Industrial material includes flexible plastic film such as cutouts from plastic bags manufacturers. This material is then compounded and extruded into a very dense and rigid board containing 100% recycled plastic.

Because PERMA-DECK® Decking Boards are made with thermoplastics polymers (100% recycled plastic), they have outstanding resistance to chemical products, oil, mold and mildew, salt spray and insects. It does not absorb moisture; therefore they will not split, rot or splinter.

PERMA-DECK® is manufactured in lumber size deck boards; square boards and tongue & groove boards. The boards come in many selected colors ; Light Grey, Beige, Sandstone Brown and Redwood.

### Main uses

PERMA-DECK® Decking Boards are a solution for exterior applications where no-maintenance and weathering resistance are required such as decks, porches and balconies for residential, municipal and commercial applications.

Physical Properties	Method	Value
<b>Flexural Properties</b>		
Flexural Strength	ASTM D6109	3,489 psi
Modulus of Elasticity	ASTM D6109	167,146 psi
<b>Compressive Properties</b>		
Compressive Strength	ASTM D6108	1,773 psi
Modulus of Elasticity	ASTM D6108	117,835 psi
<b>Coefficient Linear Thermal Expansion</b>	ASTM D6341	0.0000498 in/in/°F
<b>Static Coefficient of Friction</b> Rubber Shoe Sole	ASTM D2394	Longitudinal: 0.538 Transverse: 0.622
<b>Kinetic Coefficient of Friction</b> Rubber Shoe Sole	ASTM D2394	Longitudinal: 0.622 Transverse: 0.643
<b>Density (Specific Gravity)</b>	ASTM D6111	.035 lbs/cu in
<b>Water Absorption</b>	ASTM D1037	< 0.01 %
<b>Screw Withdrawal #10, 2½"</b>	ASTM D6117	1,158 lbs

### Design Considerations

Because plastic lumber boards are more flexible than wood, PERMA-DECK® is not intended for use as load-bearing members such as posts, joists, stringers or beams.

When designing for decking or flooring with PERMA-DECK®, joist spacing is a very important point to consider. The following tables give the joist spans vs. Allowable Live Loads and/or Concentrated Loads.

Allowable Live Load (psf) at 70° F			
Maximum Deflection	12" span	16" span	20" span
<b>5/4 x 6 Perma-Deck® Board</b>			
L/360	818	345	177
L/240	1,226	517	265
L/180	1,635	690	353
<b>2 x 6 Perma-Deck® Board</b>			
L/360	1,204	508	260
L/240	1,805	762	390
L/180	2,407	1,016	520

Concentrated Loads (lbs) at 70° F			
Maximum Deflection	12" span	16" span	20" span
<b>5/4 x 6 Perma-Deck® Board</b>			
L/240 instant	266	153	99
L/180 long term	150	100	80

2 x 6 Perma-Deck® Board			
L/240 instant	375	217	141
L/180 long term	400	210	140

## Installation

PERMA-DECK® can be cut, drilled, mitered and installed with conventional wood working tools. Carbide tipped saw blades are suggested. #10 stainless steel flat-head wood screws are recommended as fasteners. Pre-drill 1/4" hole. Install one screw at each joist, on one edge of the board and alternating to the other edge, but two screws at each end of the board. Fasteners should be placed no closer than 3/4" from any edge of the board.

Consideration should be given to expansion and contraction, gaps should be provided between the boards when installing PERMA-DECK® Decking Boards. As an example, a PERMA-DECK® 8' board will expand or contract 1/4" over a 50°F temperature change. See Coefficient of Linear Thermal Expansion in Physical Properties table.

## Dimensions

PERMA-DECK® Decking Boards are manufactured in the following lumber sizes:

Nominal Dimensions	Actual Dimensions
1 X 6 T&G	1" X 6" T&G
5/4 X 6	1-1/4" X 5-9/16"
2 X 6	1-7/16" X 5-3/8"

## Warranty

PERMA-DECK® Deck Boards come with a 50-years Limited Warranty. The product is warranted not to rot, split, crack or splinter during this period. If the material does not perform as stated it will be replaced.

## Care and Cleaning

PERMA-DECK® is not affected by most chemical products and does not absorb moisture. To keep the original finish, clean it with mild soap and water. PERMA-DECK® is a Maintenance-Free product that requires no painting, no staining, no sealing.

PERMA-DECK® is offering maximum durability and excellent weathering resistance; however, as with other polyolefin's base material, it is possible that the material will fade slightly over the life of the product. This will not impair product performance.

Graffiti can be cleaned, from PERMA-DECK®, with the use of petroleum-base cleaners.

## Other information

PERMA-DECK® has been tested, for UV exposure, extreme temperatures and hygrothermal cycled exposure (freeze/thaw) as per ASTM test methods and are proven to retain its performance characteristics.

PERMA-DECK® has been tested by Underwriter's Laboratories to determine the surface burning characteristics of the material (Flame Spread Index) in accordance with ASTM Test Method. The product has a melting point temperature of approximately 280° F and a flash point temperature of approximately 645° F.

## Technical support

PERMA-DECK® Tool Free Number: (888) 313-2440 or visit our website [www.perma-deck.com](http://www.perma-deck.com)

